Third United Nations International Conference on the Peaceful Uses of Atomic Energy

A/CONF.28/A/366
USSR
February 1964
Original: RUSSIAN

Confidential until official release during Conference

Abstract

THE STUDY OF NEUTRON THERMALIZATION IN WATER AND GRAPHITE-WATER REACTOR LATTICES

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The investigation is described of thermal neutron spectra for water and graphite-water reactors by means of the time-of-flight method.

Space and energy distribution of neutrons in water with a Fermi-spectrum source is presented.

Neutron spectra are measured in water poisoned by an absorber according to I/v law. The results are compared with the calculations for a gas model, taking into account the chemical binding forces.

The relaxation of a neutron gas temperature in water has been studied.

Two approaches are considered fairly explaning the asymptotic spectrum for thermal neutrons.

The results of measurement and those of calculations with P-3 approximation are given for several types of graphite-water reactor lattices, taking into account the thermalization effects.

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